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BOTTOM-UP GOVERNANCE AFTER A NATURAL DISASTER: A TEMPORARY POST-EARTHQUAKE COMMUNITY GARDEN IN CENTRAL CHRISTCHURCH, NEW ZEALAND

**ROY MONTGOMERY, ANDREAS WESENER AND
FRAN DAVIES**

Abstract

Creative temporary or transitional use of vacant urban open spaces is seldom foreseen in traditional urban planning and has historically been linked to economic or political disturbances. Christchurch, like most cities, has had a relatively small stock of vacant spaces throughout much of its history. This changed dramatically after an earthquake and several damaging aftershocks hit the city in 2010 and 2011; temporary uses emerged on post-earthquake sites that ran parallel to the “official” rebuild discourse and programmes of action. The paper examines a post-earthquake transitional community-initiated open space (CIOS) in central Christchurch. CIOS have been established by local community groups as bottom-up initiatives relying on financial sponsorship, agreements with local landowners who leave their land for temporary projects until they are ready to redevelop, and volunteers who build and maintain the spaces. The paper discusses bottom-up governance approaches in depth in a single temporary post-earthquake community garden project using the concepts of community resilience and social capital. The study analyses and highlights the evolution and actions of the facilitating community organisation (Greening the Rubble) and the impact of this on the project. It discusses key actors’ motivations and values, perceived benefits and challenges, and their current involvement with the garden. The paper concludes with observations and recommendations about the initiation of such projects and the challenges for those wishing to study ephemeral social recovery phenomena.

Keywords:
community garden, bottom-up
governance, community-initiated
open spaces, temporary uses,
post-disaster, community
resilience, social capital

Introduction

Temporary uses are usually not foreseen in conventional urban planning; new land-uses are supposed to replace old ones without significant delays (Colomb, 2012, p. 133). Many temporary urban open spaces have been established “in a context of economic, urban or political disorder” (Andres, 2013, p. 759), for example related to substantial structural changes such as de-industrialisation, shrinking populations and an oversupply of vacant sites. European case studies (Andres, 2013; Colomb, 2012; Groth and Corijn, 2005) illustrate that in such contexts, the re-use of vacant spaces has been prevented by connected factors including low economic growth, weak planning and historic path dependencies. However, policy makers have recognised the value of temporary uses for dynamic urban development (BMVBS and BBR, 2008; Senatsverwaltung für Stadtentwicklung Berlin, 2007; Studio Urban Catalyst, 2003) and adopted the concept of “interim uses” (*Zwischennutzungen*) (Blumner, 2006) and “meanwhile leases” (Kamvasinou, 2015, p. 2) within their planning frameworks.

In Christchurch, temporary uses of vacant sites commenced after another kind of urban disorder, the 2010 and 2011 earthquakes, which caused major damage in the city centre and the eastern suburbs. Christchurch’s post-earthquake urban planning approaches have been described as two parallel “dynamics in tension – a bottom-up impulse focused on place and community, and a top-down government-led program of economic recovery and rationalisation” (Swaffield, 2013, p. 23). While the New Zealand neo-liberal central government passed the Canterbury Earthquake Recovery Act (CERA) and developed a top-down agenda which took comprehensive control over Christchurch’s recovery process, various community organisations have been developing temporary projects using vacant earthquake sites as activity spaces¹ including community gardens. It has been suggested that in a post-disaster context, community gardens are beneficial with regard to fostering individual and community resilience (Okvat and Zautra, 2014; Chan, DuBois and Tidball, 2015) and social capital constructions (Hosted, 2013). Research on such initiatives, the way they are governed, the spaces they produce and the benefits they provide is therefore relevant.

The focus of the study is framed by the phenomenon of temporary uses of vacant urban open spaces and related bottom-up initiatives after a natural disaster. By looking at a temporary post-earthquake community garden in Christchurch (New Zealand), the paper addresses two apparent research gaps. The first one is geographical: Many scholarly papers have examined North American, European or Australian community gardens; however, there have been few relevant research publications from New Zealand (Guitart, Pickering and Byrne, 2012). Second, while a few studies have examined post-disaster temporary uses of vacant open spaces (Wesener, 2015; Wesener and Risse, 2015) and the role of existing

- 1 Bennett, Boidi and Boles (2012) published a compilation of 153 post-earthquake temporary projects under the title Christchurch: the transitional city. For a comprehensive overview of community-led initiatives, see Carlton and Vallance (2013).

community gardens for local resilience after a natural disaster (Okvat and Zautra, 2014; Chan, DuBois and Tidball, 2015), the establishment of new temporary community gardens in a post-disaster context has not been examined so far. Two concepts – community resilience and social capital formation – inform the theoretical discussion in this study. The paper twins the study of a particular bottom-up on-ground response to an examination of the facilitating function of a novel institution – Greening the Rubble (GtR), a popular community organisation that started immediately after the September 2010 earthquake with a focus on green landscape projects. It discusses post-disaster bottom-up governance, understood as a community-organised form of governance that produces transitional projects and related urban open spaces after a major disaster. While new institutions are a common phenomenon in post-disaster contexts, their durability, internal governance arrangements and links to governing institutions are not routinely examined. By examining multiple data sources in a single case study – a temporary community garden in central Christchurch following the 2010/2011 earthquakes – the paper discusses governance arrangements and the involvement of community activists both in the immediate post-disaster phase and, 4 years later, 2015. It raises the question whether, following disasters, community gardens may function principally as a form of post-trauma recovery, an ephemeral therapeutic “release” aimed at making something quickly rather than thinking about the durability. It also asks whether temporal trajectories associated with such projects need greater consideration in advance of commencement.

The paper is divided into seven main sections. The first two sections describe research design and case study, followed by a discussion of the theoretical framework – community resilience and social capital formation – in relation to temporary community-initiated open spaces (CIOS) in Christchurch. Drawing on participant observations, direct observations and photographic documentation, the fourth section examines the community organisation “Greening the Rubble” (GtR) in relation to the case study. The fifth section provides a content analysis of interviews and questionnaires that informed the study. The sixth section discusses research results in relation to the research questions and theoretical concepts. The paper concludes with a critical discussion of the findings and lessons learned.

Research design

The main aim of this paper is to analyse bottom-up governance approaches with regard to a temporary post-disaster community garden and in relation to concepts of community resilience and social capital over time. The study discusses the role of a new “linking” social capital organisation (GtR) in implementing a new temporary post-disaster

community garden in Christchurch. Three main research questions guided the initial investigation:

1. What motivated people to get involved in a temporary community garden project after a natural disaster?
2. What were the benefits and challenges of getting involved in such a project?
3. How has governance and community involvement developed over time?

The research is based on case study methodology where particular sets of conditions are studied in their contexts in order to generate context-related knowledge. This study is based on a single case of specific and immediate interest (Stake, 1995, pp. 1–13; Yin, 2014, pp. 51–56; Flyvbjerg, 2006). The rationale for selecting this case was based on the opportunity to access a unique situation that had not been studied so far thus resembling Yin’s “revelatory case” (2014, p. 52). Due to the first author’s involvement in Christchurch’s post-earthquake recovery, in particular as a board member of “Greening the Rubble”, the first author became aware of the case, a temporary central-city community garden established after a major natural disaster (for a detailed description see the following section). The author had access to research-relevant data even before the formal study had been planned (cf. Stake, 2005, p. 450). Following Stake’s approach (2005, pp. 445–447), the paper is based on the intrinsic interest in the particular case. It seeks to optimize the understanding of this case rather than to generalise beyond it (Stake, 2005, p. 443) – even if the case might encourage some degree of generalisation.²

The study makes use of multiple data sources. Through active participation and direct observations, the author in his role being a GtR member gathered information via GtR board meetings and during site visits. He had access to documentation materials that were used in this study, in particular photographs taken during that time (e.g. figure 5). In addition to data sources that help understand the situation when the garden became established, direct observations were carried out on site in the first quarter of 2015. In order to access the reflective knowledge of two main facilitators of the garden, semi-structured, qualitative interviews were conducted with two key informants – the property owner (I1) and the former GtR project coordinator (I2). The first main question (“Could you describe your personal situation at the time you got involved with the Fitzgerald Community Garden project?”) allowed the interviewees to recall people’s involvement in the post-trauma phase immediately following the earthquakes independently from their present involvement. Follow-up questions such as “What were your personal motivations to join the project?”, “What stands out as remarkable about the project?” or “Did the project foster new contacts and relationships that otherwise would not have been made?” helped specify answers. The second main question (“How do you see the project now?”) asked about interviewees’

- 2 It goes beyond the scope of this paper to discuss the many approaches to case study research in detail, including the discourse around generalisation (e.g. Stake, 1995; 2005; Yin, 2014; Flyvbjerg, 2006; Van Wynsberghe and Khan, 2007; Baxter and Jack, 2008). In accordance with Van Wynsberghe and Khan (2007, pp. 445–447) we define case study not by method but interest in a particular case (see also Stake, 2005, pp. 445–447). Our goal is to study a unique situation. Transitional post-disaster open spaces including temporary community gardens have rarely been subject to academic discussion (cf. Wesener, 2015). According to our knowledge, there is no existing theory that applies to the kind of bottom-up governance in post-disaster transitional open spaces we experience in Christchurch. Accordingly, we discuss theoretical concepts such as community resilience and social capital as a framework to find connections that, however, never fully fit the particular situation. We make some propositions in the conclusions section to support future research on the phenomenon. However, for abovementioned reasons, we do not intend to test or falsify existing theory.

present relationship to the project. Typical follow-up questions were: “Are you currently still involved in the project?”, “Have any project-related contacts and relationships carried on?” and “How do you see the future of the project?” The former project coordinator of the New Zealand organisation for hearing-impaired people, Deaf Aotearoa – an organisation that actively participated in the establishment of the garden through volunteer work – was interviewed through a questionnaire sent and returned by e-mail (Q1). A second questionnaire filled out by the coordinator of another post-earthquake community garden who had formerly worked in the Fitzgerald Ave project was used as an additional primary source (Q2). Audio files were fully transcribed and then, together with the questionnaires, coded to pull the main data. The divide between the stakeholders’ experiences during the set-up phase and their current perception was sustained during the examination of the raw data. Any observations made by the informants that stood out from the transcripts were noted. An analysis was carried out on the coded and summarised data in outline terms. Particular attention was paid to possible emerging themes and core variables in the responses of interviewees. This analysis was then examined in relation to the theoretical framework.

The case study: Fitzgerald Avenue Community Garden

Fitzgerald Avenue Community Garden is a temporary post-earthquake community garden on a vacant earthquake site in the central city of Christchurch (figure 1). The case meets some of the prototype criteria set out by Van Wynsberghe and Khan (2007, pp. 83–84): small participant population; availability of rich contextual detail; natural settings insofar as researchers tried to find people after they had moved on from the controlled environment (cf. site surveys where subjects are to some extent captive); boundedness to the extent that it is a small site in physical terms and the notional lifespan was one to two years. Christchurch’s central city was laid out in 1850 as a “‘standard’ rectangular grid of [British] colonial settlement” (Wilson, et al., 2005, p. 11) covering around 445 hectares. The principal green infrastructures that serve the central city are Hagley Park on the western border, the Avon River corridor that meanders through the urban grid, two historic squares (Latimer and Cranmer) in the eastern and north-western quadrants respectively. Three broad (six-to-eight lanes) avenues demarcate the other boundaries of the Central Business District (CBD) (figure 1). Two of them, Fitzgerald Avenue on the eastern edge, and Bealey Avenue on the northern edge, have middle sections planted in oak trees, grass and seasonally flowering bulbs. The urban fabric of central Christchurch and the inner city suburbs is predominantly single storey or two-storey private housing situated on quarter-acre land parcels (1,010 m²). Historically, these houses have been relatively small, averaging less than 150 m² which has afforded ample space for private gardens and open space, branding Christchurch as “the gar-

den city". This is not related to Ebenezer Howard's ([1902] 1946) or Unwin and Parker's (1909) town planning theories. Arguably, it would be more accurate to speak of Christchurch as an exemplary "garden suburb city" insofar as great pride is taken in the notion of the private residential garden, typically surrounding a detached dwelling including tidy front gardens with trees, shrubs, flowers and a front lawn on private property. In the pre-earthquake Christchurch inner-city context the standard transitional vacant space typology was (and to some extent remains) the car parking lot. In a city, and indeed country, where public transport use is low and private motor vehicle ownership high, short-to-medium term uncovered car parks are an "attractive" temporary use for property owners, local authorities and surrounding businesses.

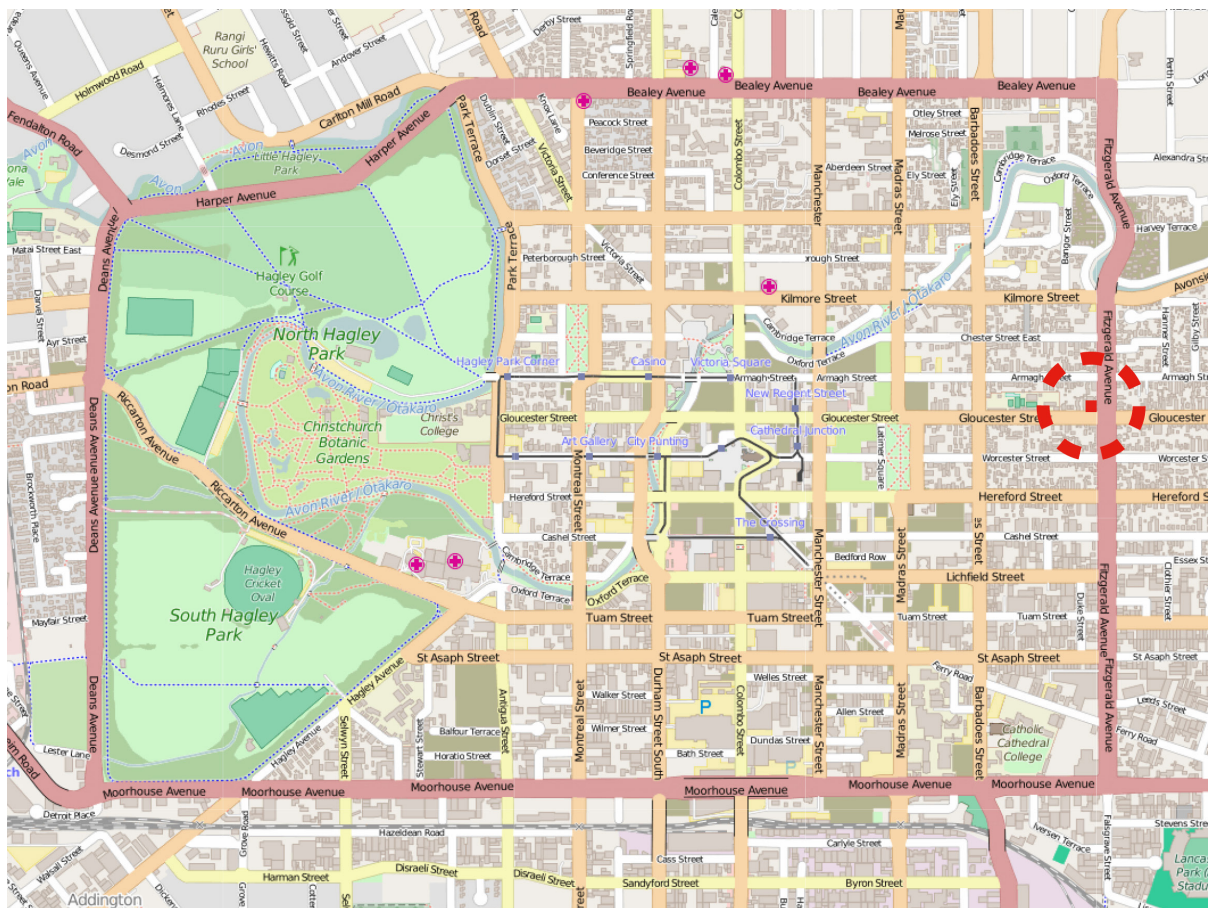


Figure 1
Site location (red square with dashed circle around) within Christchurch's CBD.

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Figure 2
Site prior to commencement.
PHOTO: COURTESY OF RHYS TAYLOR



Figure 3
Street frontage shortly after construction.
PHOTO: COURTESY OF RHYS TAYLOR



Figure 4
View across garden showing final set of timber beds.
PHOTO: COURTESY OF RHYS TAYLOR



Figure 5
Australia New Zealand (ANZ), bank
volunteers carrying out paving (2012).

PHOTO: COURTESY OF RHYS TAYLOR

The earthquakes have seriously affected Christchurch's built environment and urban infrastructure. In the city centre, the majority of buildings got lost through direct seismic action or subsequent demolitions of seriously damaged or economically unviable buildings. A comparison of satellite images before the September 2010 earthquake and today illustrates the extent of devastation (CERA, 2014). By February 2015, 1,240 buildings had been demolished and 292 new constructions commenced (Gates, 2015). The city lost an estimated 15,000 citizens in the immediate aftermath of the disaster (Wilson, 2013, p. 209); the 2013 census depicts a net loss of around 7,000 people. Many people seem to have moved out of the city into less affected districts such as Selwyn (Bayer, 2013). It is uncertain how many residents and businesses will return to Christchurch and the CBD after they have found new locations; some sites may remain vacant for a longer period. Fitzgerald Ave Community Garden comprises an area of approximately 556 m² made up of two adjoining parcels of land (figure 2). Prior to the earthquakes, each parcel contained a small, run down weatherboard cottage. Both were demolished as a consequence of the earthquakes leaving vacant residential sections. A local business entrepreneur who is also long-time local resident owns the land and several adjoining properties. His prior involvement as a volunteer with the first Greening the Rubble project several blocks away prompted him to offer the site for a community garden. Although the site is technically within the boundaries of the CBD, it lies within a predominantly residential neighbourhood made up of older single-family homes and rental apartments at the lower end of the market. The site owner proposed the initial idea of a community garden to Greening the Rubble in November 2011. There is a "license to occupy" agreement between Greening the Rubble and the owner with a duration of nominally two years that can be rolled over for six months to a year as needed. This bespoke tenancy contract is very similar to the "meanwhile lease" described by Kamvasinou (2015, p.8). Construction work began in February 2012, the garden

opened in August and the official launch was in November 2012. Several NGOs and community groups were involved in the initial start-up, notably Greening the Rubble, Te Whare Roimata and Deaf Aotearoa. Inner city schools such as Christchurch East Primary School and Catholic Cathedral College contributed labour as did Conservation Volunteers, a national NGO, and staff from the nearby branch of Australia New Zealand Bank (Taylor, 2012). Members of the local community designed the garden. Greening the Rubble provided guidance for design and organised construction labour amongst local businesses, schools and community groups.

Formal access to the allotment is along the eastern boundary with a low wall and opening on the street frontage, which measures 23 m. The other boundaries are fenced to a height of 1.0 to 1.8 m with occasional gaps on the western and southern boundaries which reflects the fact that one owner holds four parcels of land and permeability/privacy is not a major issue. From the street frontage, the garden still has the appearance of a residential property due to the existing low boundary wall and a few mature trees and shrubs that predate the construction of the community garden (figure 3). The layout is relatively informal with planters, gravelled access paths and grassed areas. Intended for the growing of vegetables, the garden consists mainly of slightly raised (100–400 mm height) planting beds, the majority of which are timber-sided (figure 4). There are three brick planting beds. Water supply is from a neighbouring domestic property. A small lock-up implement shed is at the rear of the allotment. A few existing fruit trees from residential gardens have been kept but these are ornamental rather than productive. Topsoil was trucked in and spread into beds. Common vegetables such as silver beet, celery, artichokes, and beans are grown seasonally. There are several native plants such as flaxes, which have been added to the site, and some brick beds are used for ornamental flower cultivation such as marigolds. Planting, clearing and harvesting continues on a much smaller voluntary basis and there is no charge for any produce harvested. Food grown is intended for neighbourhood sustenance. The idea of a community garden on the sites occupied by 193–195 Fitzgerald Avenue belongs to a larger vision or redevelopment scheme for a community space initiated by the site owner known as “Town Reserve 97”.³ Although the concept as described on the Facebook page does not include a garden it does include markets and quasi-public spaces. The earthquakes redrew the parameters of the larger project temporarily: demolition of dangerous structures was required irrespective whether planning permission or grant funding for the larger project had been secured. The owner knew that for some time there would be an empty site with no new buildings. To that extent, a community garden was a placeholder and an afterthought.

3 See https://www.facebook.com/TR97CAT/info?tab=page_info.

Community resilience, social capital and transitional community-initiated open spaces

This section briefly reviews concepts of community resilience and social capital with regard to transitional community-initiated open spaces (CIOS). It has been suggested that CIOS have helped strengthen community resilience on individual and collective levels in post-earthquake Christchurch by creating opportunities for positive emotions and experiences, by encouraging experimentation and innovation, by creating and strengthening social capital and by fostering community empowerment (Wesener, 2015). In this paper, transitional “Community-Initiated Open Spaces” (CIOS) are conceptualised as temporarily used vacant urban sites produced by community groups in post-earthquake Christchurch. Communities involved in creating CIOS are not necessarily geographically bound. They are “communities of interest” composed of individuals who share the goal of “responding creatively to the extensive damage caused by the earthquakes” (Greening the Rubble, 2015). Communities of interest share the “the difficulty of divorcing social activity from the physical setting in which it inevitably takes place” (Dempsey, et al., 2011, p. 294) with geographically-bound communities. Against this backdrop, transitional urban open spaces are physical platforms for post-disaster community action. The term “transitional” has been applied to many temporary post-earthquake projects in Christchurch (Bennett, Boidi and Boles, 2012; FESTA, 2014). “Transitional” has been conceptualised as part of a late post-disaster response phase (Harrald, 2006, pp. 261–262), as an in-between phase between response and recovery phases (CDEM, 2005) or as part of the recovery phase (“transitional phase of recovery”) (Blake, 2013, p. 10).

In Christchurch, “transitional” has been related to the flexible and dynamic nature of temporary projects (Wesener, 2015, p. 411). It also expresses the hope for a more resilient urban future related to “key transitional processes that shape community resilience and how communities cope with environmental and social change at the local level [...]” (Wilson, 2012, p. 78). Resilience, “the continued ability of a person, group, or system to function during and after any sort of stress” (National Research Council, 2011, p. 4), has become a new political and policy buzzword (Amin, 2013; Vallance, 2012; Wilson, 2012). Resilience concepts accept continuous change caused by natural and/or anthropogenic disturbances including “*sudden catastrophic disturbances* (e.g. earthquakes) as well as *slow-onset disturbances* such as climate change or shifts in global trade” (Wilson, 2012, p.11). Resilience has been conceptualised in relation to individuals, communities, institutions (Daly, et al., 2009, p. 17) and context, for example in the form of “social-ecological” or “urban” resilience (Beilin and Wilkinson, 2015). Resilience approaches include stabilising a system and bringing it back to its previous state, adapting to new conditions by modifying previous systems, and using opportunities of system disturbances to thrive in changed conditions (Vallance, 2012, p. 392;

Magis, 2010, p. 404). On a human individual level, it has been suggested that resilient people are able to find positive meaning and express positive emotions even in times of crisis (Tidball and Krasny, 2014, p. 5). Accordingly, encouraging positive stimuli and fostering positive activities have been considered important in post-disaster situations (Okvat and Zautra, 2014, p. 73).

Community resilience (CR) has been defined as a community's ability to obtain and utilise available resources in order to thrive even under uncertain and continuously changing circumstances (Magis, 2010, p. 402). It has been suggested that CR is achieved best when economic, social and environmental capitals are equally accessible (Wilson, 2012, p. 24) and utilised through community action (Magis, 2010, p. 410). Governance structures may support community engagement and action (Vallance, 2012, p. 403); encouraging the empowerment of communities by governmental and civic agencies has been related to institutional resilience (Daly, et al., 2009, p. 17). The combined engagement of community resources and community action has been understood as a community's "adaptive" and "participative" capacities (Vallance, 2012, p. 392; see also Lorenz, 2013). However, Lorenz (2013) cautions that even when the participative dimension is included in social resilience models to differentiate these from conventional ecological models of adaptation, a crucial concept that is often still omitted is that of "coping" (pp. 14–17). Taking this further, mere participation in response to an event or initiative does not necessarily reflect or predict an individual's adaptation over a long-term period. It may simply be a coping response to get through the immediate circumstances. The relationship between "coping" and the notion of a more durable "adaptive capacity" has been discussed by a number of authors (Brooks, 2003, pp. 12–13; Eriksen, Brown and Kelly, 2005, p. 288; Smit and Wandel, 2006, p. 287). This distinction is important for our case study and will be discussed later on.

Social capital theory (SCT), while initially developed in the contexts of relatively stable social settings or situations of gradual social change, is also relevant in a post-disaster context. Robert Putnam is usually credited with popularising the terminology in his studies of Italian City States (Putnam, Leonardi and Nanetti, 1993) and the apparent decline of American social institutions (Putnam, 2000). He focuses on two key elements of social capital, localised "bonding" and inter-local "bridging" and stresses the positive and critical value of these elements. Bonding social capital resides at a highly localised level and in its simplest form, can be seen in the way people help each other as neighbours in both calm and catastrophic circumstances. Bridging social capital is often referred to in the context of voluntary associations e.g., clubs and organisations, that are created across neighbourhoods and cities. It transcends bonding networks: people who might not otherwise associate with each another meet to pursue common goals. Both types are relatively horizontal in po-

litical terms although bridging institutions generally require some sort of governance arrangements such as charters, deeds, boards of trustees or committees.

Just as CR is open to debate, SCT, especially the ideal model for “civil society” as articulated by Putnam, has its critics (Edwards and Foley, 1998; Boggs, 2001). But SCT continues to gather momentum: “Despite the evidence about its efficacy, resilience research and disaster management practice have yet to fully embrace social capital as a critical component” (Aldrich and Meyer, 2015, p. 256). Similarly, Wilson (2012, p. 22–23) notes that the creation of social capital is a key factor in post-disaster recovery. It has been argued that “post-disaster social networks are likely to tightly mirror pre-disaster conditions” (Aldrich, 2012, p. 53); pre-existing social capital may therefore be influential on post-disaster recovery (Vallance, 2012). Aldrich and Meyer (2015, p. 259) suggest that within the critical discourse around social capital theory there appears to be agreement about three types of social capital: bonding, bridging and, related to vertical rather than lateral influence, “linking”. Linking social capital differs in so far as it describes the ability to gain access to resources and influences externally and often to exert political leverage in some form. One of the key challenges in social capital theory is the degree to which all three dimensions need to be present in a given situation in order to “work” (Babaei, Ahmad and Gill, 2012).

Typically, bonding social capital tends to manifest quickly and reliably in disaster settings because instantaneous help always appears in the first minutes, hours and days following an event. Analysing the phenomenon further by way of several historical case studies, Solnit (2009) argues that, contrary to official beliefs about public behaviour in disasters most people behave calmly and, if anything, more empathically than would normally be the case. Paradoxically, governments and officials tend to outlaw altruistic action in disasters unless it is channelled first through accredited bodies. Solnit claims that the most harmful fear response is the pre-event paranoia or “elite panic” that occurs time and time again in crisis management agency planning (Solnit, 2009, pp. 126–131). This has practical implications for notions of “bottom-up governance” since top-down governance in disaster situations is likely to become more rather than less intransigent.

Greening the Rubble’s evolution and the Fitzgerald Community Garden

CIOs are not part of the New Zealand central-government-driven long-term vision for Christchurch’s urban recovery. However, they received official endorsement as drivers for urban recovery and regeneration from the local city council. In contrast to many other cities that have supported temporary urban open spaces mainly for their role as possible eco-

conomic catalysts (cp. Colomb, 2012; Groth and Corijn, 2005), Christchurch City Council (CCC) immediately recognised transitional spaces as an opportunity for urban recovery more broadly defined (Montgomery, 2012, p. 8). The council has provided financial support for temporary projects (CCC, 2014) and supports Life in Vacant Spaces (LiVS), a brokering advocacy or intermediate linking institution which was formed when it became clear that there were numerous grass-roots projects being schemed and activated. LiVS arranges and coordinates the supply of vacant sites between land owners and temporary users (LiVS, 2014). CIOs provide “opportunities for people to do a temporary project, which may test a new idea or add public benefits until the space is needed back” (CCC, 2014). Their “transitional” status has principally not been contested; land uses where “[e]very user wants to become permanent” (Blumner, 2006, p. 13) have not explicitly been anticipated. The transient character of CIOs has been highlighted as an explicit expression of their creative nature (Bowring and Swaffield, 2013, p. 100). Compared to European case studies, community activists in Christchurch have not necessarily pursued alternative socio-economic or political agendas which were in conflict with “official” ones (cp. Groth and Corijn, 2005). Being one of the most popular organisations, GtR has focussed on CIOs in the form of temporary urban green spaces and ecological projects including public parks and gardens. The first meeting in October 2010 drew together gardening club enthusiasts, native biodiversity and conservation advocates, urban ecologists, landscape designers, architects, ecologists, public programmes managers, academics and politicians, including the Mayors of Christchurch City (Montgomery, 2012). The initial remit or mandate for GtR was to help activate a handful of privately owned commercial sites while sympathetic host landowners prepared their rebuild plans. It was envisaged that the lifespan of GtR would match that of the rebuild process i.e., at least six months but not much longer than twelve months. The first project started as early as October 2010, only weeks after the group’s formation. A sympathetic CBD property owner made his site available for a temporary park. The future host of the Fitzgerald Avenue Community Garden was one of the many hundreds of people who volunteered their time for the initial GtR project. He used that positive experience to support an initiative on his own land. However, it was quickly realised when the first project, Victoria Green, was initiated that, apart from a rush of voluntary design and labour inputs, “real” money and materials were being handed over. It was therefore important to create some kind of accountability and governance structure. The most expedient solution, and since two of the initial participants were members, was to use an existing umbrella charity, Living Streets Aotearoa (2015), as the legal entity in which GtR was a sub-group. It was decided that written agreements with landowners, a license to occupy, would be necessary for each project. Thus, while committing itself to a number of projects from October 2010 onwards GtR also had to work its way through the legal process of incorporation. While the first project shares a similarity with Fitzgerald Avenue Com-

munity Garden in terms of drawing a wide variety and large number of participants in the construction phase, it is important to note the differences and how the September 2010 earthquake and the first project affected later projects. Victoria Green attracted much media attention. The Mayor and local MPs were involved in the opening and at least one MP acted as a negotiator with neighbouring residents and property owners. Professional input from Landscape Architects and Urban Designers was plentiful. Corporate sponsorship was easy to find and the biggest coup was the involvement of a New Zealand Rugby All-Black replete Canterbury Crusaders team in site construction. There was a festive, almost party-like atmosphere throughout the life of the project and a clear sense that, however delayed the building reconstruction process might turn out to be for Victoria Green's owner, there was a beginning, middle and end that everyone understood in general terms. If anything, Victoria Green was over-subscribed and part of the challenge was to limit involvement and offer the promise of involvement in upcoming projects. The February 2011 aftershock transformed the almost festive process into one of greater sobriety. It also quarantined sites like Victoria Green for a number of weeks since they fell within a central city cordon or no-go "red zone". The February aftershock also instantaneously multiplied the number of likely vacant sites by at least one order of magnitude, e.g., from 150 to 1500. To GtR members it quickly became clear following the 2011 aftershock that the inner city commercial area was devastated rather than lightly damaged. It was realised that the scale and duration of projects were bound to increase, so the matter of managing several projects at once was dealt with by forming a steering group (Montgomery, 2013). This led to situations when in a single week there might be a site meeting, a steering group meeting about managing existing and future projects, and a "board" meeting to decide financial, contractual and constitutional matters. Those attending the meetings, almost exclusively in a volunteer capacity, were often drawn from the same small group of no more than twelve regular participants. Although internal governance and connections to formal governance structures were not in the minds of the first volunteers, these matters have become and remain relevant. With hindsight, it is apparent that many people joined simply as an immediate coping response or to help others or the city as a whole to cope with the initial "shock" phase of what had happened. Few joined with the intention of becoming a boundary organisation that would spend much of its time connecting (bridging) other disparate groups or engaging with (linking) the recovery bureaucracy such as CCC, CERA, Canterbury Regional Council (ECan), public utilities, government departments (DoC) and corporate property owners.

Fitzgerald Avenue Community Garden saw heavy participation by community groups and organisations when the garden became established in 2012/2013 (figure 5). Based on direct observations it is estimated that approximately 150 people from different individual or organisational

backgrounds, all with diverse motivations, actively participated in establishing the garden. Observations during site visits in late 2014 and early 2015 reveal that the initial “buzz” of 2012/2013 has not been sustained. There is no sign of frequent community activity on site and the garden periodically looks deserted. Greening the Rubble reduced its engagement in the garden significantly after the garden became formally established. GtR project workers are tasked with managing volunteers and resources at many different sites. Some of the individuals who have succeeded the original project worker reported that they find it difficult to juggle their creative inputs with “people management” issues. For founder members, the shift from a predominantly bonding and bridging rationale to occupying a key linking function has come at a cost. The remaining founder trust board members spend less time as hands-on volunteers than they would prefer. Indeed, some have stepped down as board members because they feel they have lost too much time for actual bonding or manual work activity on a site. Both the Fitzgerald Avenue Community Garden and GtR are still in existence (as at mid-2016) and this is longer than was originally envisaged in both cases. However, for the Fitzgerald Community Garden it now seems there was a risk in handing over the bureaucratic and corporate liaison role to GtR. As GtR has wound down its involvement, there is no independent advocacy or linking agent for the Community Garden that connects it with officialdom.

Interviews and questionnaires – content analysis results

The results of the content analysis of the two interviews and two questionnaires have been divided into three categories: motivations and values, benefits and challenges and current involvement and anticipated future in direct response to the research questions.

Motivations and values

The results show that in the immediate post-disaster phase of the Christchurch earthquakes, people felt energised to contribute to the recovery of the city. Personal motivations to join the Fitzgerald Avenue community garden project were diverse but geared toward contributing to the local community with a focus on progress and productivity.

We weren't in a position to develop the site straight away so we wanted to do [...] something for the community but also something for us now what I mean by something for the community being just a place to be able to go to and to be able to show that something was happening there [...].

1-property owner

The site was to function as a productive food garden and meeting place

fulfilling social and physical needs caused by the earthquakes. Motivation was drawn from turning dereliction into something positive. Seeing the site developed from earthquake damaged to productive land became an indicator of wider progress.

[...] there were a lot of people living near there who were affected by the earthquake who would actually be in some social and physical need and so we thought making a food garden was actually a good response [...] in negotiation between us was a food garden and the space on which things could happen so we wanted a space that could be used for arts, entertainment or community activity in addition to growing food [...]

I2-GtR coordinator

The landowner (I1) supported the principles of GtR and became motivated to instigate such a project as a means of maintaining the property while giving it a purpose. He believed his family's site offered a highly visible location on the less prosperous side of city, where the physical need for such a resource was more apparent. Beyond the benefits of a food garden, the owner intended the site to be a green space providing some relief from the built environment of the inner city – a place of reflection and relaxation.

What stood out during this phase was the “can do” and “will do” culture of the city. Whether volunteers held a practical interest in food and decorative gardening, a philosophical interest in how to green a city, or were restless for progress and social interaction at a time where the city felt stagnant, they sought to offer assistance. Volunteers from organisations and businesses contacted the GtR coordinators, rather than manpower being sourced the other way around. An example is the community development leader of Deaf Aotearoa (Q1) for whom the project reflected the value of “[d]eaf people participating in this community garden, collaborating with hearing volunteers.”

Benefits and challenges

While the motivation to become involved for some may have been the fulfilment of a professional role, such as project coordinator for GtR or the community development leader for Deaf Aotearoa, personal benefits stretched beyond those roles. Those involved benefited from the social aspect of volunteering. Meeting locals to the area along with passers-by in general, strengthened the sense of community.

[...] just working at the site is you get to meet lots of people, lots of people are great, they like talking and stopping and talking and chatting about it. Very few people do anything else! They love talking about what a great thing you're doing but it doesn't really flow through onto actual help on the site but at least people are stopping and talking about it, that's the first thing.

I1-property owner

Turning the vacant site into a garden also had aesthetic benefits:

[...] there was the visual improvement to the area, the fact that it looked nice and that it was a beacon of optimism and we put flowers in the garden as well as crops to make it attractive [...]

I2-GtR coordinator

Various businesses provided volunteers for which the experience acted as a team building exercise. Learning or further developing the practical skills required to grow produce is an ability that can be carried with those volunteers long after the space has taken on a different purpose. The landowner (I1) regarded the most tangible benefit to be “that the food that it does produce is used ... they’re actually taken away and eaten”.

The community garden lent itself well to a variety of volunteers whether they were quiet and introspective or community-minded. All ages and a variety of abilities had a means of contributing which they may not have found in other projects. The site saw visually, hearing, and psychologically impaired volunteers make use of the space. The GtR coordinator (I2) believed that all the volunteers “got real value out of being involved as part of their recovery”. Strong involvement took place by members of the deaf community with the result of “seeing delights from deaf people being involved over the time, once they got used to it” (Q1). Deaf Aotearoa’s participation assisted with the development of understanding between deaf and hearing peoples within the area. They also used the Fitzgerald garden as a temporary site for their own vegetable garden:

[...] they had to move out of their premises because of earthquake damage and they would like to relocate the vegetable beds they just brought and installed onto a new site so they’ve loaned the first set, four or five or so timber beds [...] So they came to the party and they also brought along person power as well so some of our early volunteers were deaf people who helped with the building of that part of the garden.

I2-GtR coordinator

I2 mentioned a volunteer who got engaged in the garden as a trainee social worker (Q2). She also helped develop another post-earthquake community garden in the suburb of Bryndwr outside the city centre:

The [Bryndwr] garden officially begun around Oct 2013 – that’s when we got to put the beds in. We started the process of getting consent/funding/permissions etc. much earlier in 2011. This process took longer because of the earthquakes – also the CCC didn’t have a straight forward process although they are working on this at the moment.

Q2-former volunteer

It is likely that the skills and experience gained in the Fitzgerald community garden were beneficial for establishing the Bryndwr garden. The GtR coordinator's (I2) role has been social by nature – establishing and maintaining contacts with the landowner, volunteers, sponsors and government agencies. He noted having made relevant contacts to government agencies that would not have occurred had he not entered into this role:

Yes, the city involvement was absolutely crucial. I did have a personal contact in the council who was key to the help of the project and the fact that we knew each other probably assisted it, [...] [he] has an interesting role within the Council because previously he was involved being an advocate for sustainability so he knew about a lot of these issues so I came in contact with him because I was also involved in sustainability work so [...] [he] was a key person and [...] with the help of some of the Councillors who were supportive and the Mayor, backed Greening the Rubble from a very early stage. They came along to our very first project, they supported the effort we were putting in there [...]. So the Council was crucial because the Council came up with the grant, an annual grant which they have continued to pay to support the programme so it does have some assistance from the Council which helps pay for people, part time coordinator, part time site supervisor [...].

I2-GtR coordinator

Deaf Aotearoa's project leader (Q1) was able to foster new contacts that turned out beneficial in the sense of spreading "into more network connections". In addition, contacts between deaf and hearing people have had a positive effect in the sense that "[d]eaf and hearing people can learn from each other"; this may have supported deaf people to move "positively into jobs or other projects" after their involvement. However, new contacts with government agencies and the city council were not established. Following the earthquakes, a number of challenges were faced. Damage to water mains meant that water supply, a resource necessary for this type of project, was not a certainty. Working within financial constraints also proved problematic, with no initial funding and little money being available throughout. Materials were gradually sourced through donations:

[...] we had second-hand bricks from the site and also some that the City Council gave us which were for us to build the brick sided beds [...] we got firms to give us soil and compost and to sell us mulch and other material very cheaply so we had lots of commercial support. On some of the other sites, Place makers, who are a construction supply company, [...] helped us with materials [...] deserve a mention because they've been a really good sponsor [...], they basically donate materials and they donated tools, wheelbarrows, garden tools, all sorts of stuff was given to us.

I2-GtR coordinator

Drawing and retaining volunteers and regular users once the initial momentum of the development phase slowed became a challenge. Potential users of the garden were possibly deterred by the prospect of growing produce only to have other users come along and harvest it. The garden is located in a transient area with a high number of rental properties. In the past, the garden hosted events and exhibitions (figure 6); however, this has not resulted in a more frequent and diverse use of the site:

That was just one off. I mean it's available if people want to do it. We're quite happy for them to go ahead and do it, but the other part of it might be that no-one knows who to contact, but they can contact Greening the Rubble and they can contact us, so there's little things that have been there all the time, the constant is though the gardens, just the beds[...].

I1-property owner

Pedestrians appeared to be hesitant to enter a fenced off site despite the Greening the Rubble signage. This might be a cultural phenomenon due to a New Zealander mentality to have "your own garden at the back and very much protect your own space" (I1-property owner) or simply lack of regular working bees:

Yeah it's really odd. I mean the thing there is saying Greening the Rubble [...] and we put notices up every now and again saying come along and help do things but there's no great big movement of people to get there [...] that might be our own problem or fault and the fact that we're not there at a specific time on a particular day [...] and lots of us are busy but we just fit it in when we can.

I1-property owner

Linking social capital influence appears to have been established for the project coordinator but not for the landowner. He did not believe that the project created new and lasting relationships for him. His reply to the question if he had been able to establish contacts with government agencies or the city council shows that he had not only very little contact with authorities, but that his contact with GtR had also been minimal since 2013, thus pointing at the organisation's apparent disengagement from the project:

No not really; that was all through Greening the Rubble. They have made the contacts and then it comes back again, Greening the Rubble haven't really been in contact with us for about 18 months maybe so I don't know whether they see it still being part of it or not [...]. I don't know who is running it now actually.

I1-property owner



Current involvement and anticipated future

Looking at the present state of the Fitzgerald Avenue Community Garden, the project has seen a slowing of momentum with few regular volunteers and only low-level maintenance occurring. Some stakeholders have undergone a change in their professional role. The GtR coordinator (I2) has moved on from this role and GtR has seen a number of successors fulfilling this role since. However, he retains an interest in the future of the garden. The community development project leader for Deaf Aotearoa has since moved on from her role and no longer has any involvement in the project. Holding the greatest stake in the garden's success, the landowner (I1) conducts site maintenance, which he notes is a slow and constant task rather than an onerous contribution:

[...] what we're doing is we're maintaining the grounds, mowing the lawns, planting, composting and replanting rotation and things like that. See, why it didn't go too well over this last summer was because we weren't there, we were over in Europe for five weeks so nothing got done.

I1-property owner

The garden was developed as a short-term project; therefore, there may be less motivation to remain involved without more certainty over time-frames. There remain a range of users and a consistent pattern of use; however, time has seen a change in the intensity of use. The landowner

Figure 6
Children's art event in Fitzgerald Avenue community garden.

PHOTO: COURTESY OF RHYS TAYLOR

(l1) speculated whether “people still have that spirit to do something together”, or whether we are “getting more back to the (pre-earthquake) Christchurch” mentality. The anticipated future of the Fitzgerald Avenue Community Garden depends on the interest level of the people it serves. The landowner (l1) communicated his idea of how he would like to see the site progress in three stages, which involved continuing to serve the community throughout its transformation, e.g. by keeping the garden but heading in a more commercial direction. By contrast, the emphasis of GtR, which was founded on the principle of short-duration interventions of less than two years, by default if not by intention moves resources to the latest project and does not attend to maintenance of projects that outlive initial trajectories. In the absence of formal closure between the landowner and GtR and initial volunteers (the project has had a number of launches but no decommissioning event) there seems to be a tacit understanding that if it continues then this is largely the responsibility of the landowner.

Discussion

Flyvbjerg (2006, p. 237ff.) argues convincingly that summarising case studies and linking them to specialised theory is not always useful. He suggests a narrative approach that allows for contextualised knowledge development and individual interpretations. We follow Flyvbjerg’s suggested narrative approach in the sense that we tell the garden’s story against the background of the events that unfolded after October 2010 and Greening the Rubble’s involvement as a new, post-disaster, bottom-up community organisation. However, it is crucial to highlight elements that reconnect the “thick” narrative back to our research questions and the theoretical framework discussed in section three.

GtR’s initial experience with a particularly successful temporary project (Victoria Green) after the September 2010 earthquake that attracted large and diverse numbers of participants in the construction phase but which had very clear closure parameters is significant. It has perhaps unwittingly skewed the subsequent approach of GtR to focus primarily on the implementation of projects rather than their management after construction where no clear end date is agreed or established. Furthermore, the February 2011 aftershock and the sheer scale of availability of large amounts of vacant land did not result in the even redistribution of community and volunteer or in-kind participation across a greater number of projects. GtR had planned for only a few well-managed projects and a limited core of volunteers. The February aftershock produced a greater surge of self-help, resourcefulness and critically important neighbourliness, e.g., getting food and supplies to those in need, and it sharpened people’s focus on practical actions. To that extent, setting up a community garden made more sense than making, for example, a park for contemplation, passive recreation or roadside visual amenity. However,

this was arguably an existential response rather than a conscious choice to commit to a semi-permanent piece of community infrastructure. The fact that people were motivated to be involved in establishment without necessarily feeling any enduring sense of connection with the site is therefore understandable.

At the time when the Fitzgerald Avenue Community Garden was established, it saw increased levels of individual activities, teamwork, and events. Our case study supports and augments previous research arguing that community gardens in post-disaster urban environments may foster positive activities, strengthen community engagement (Okvat and Zautra, 2014) and support social capital constructions (Hosted, 2013). In regard to concepts of community resilience and social capital, the post-earthquake community garden on Fitzgerald Avenue provided post-trauma recovery and therapeutic with various benefits for community members. These include the re-activation of individual and collective energy resources (coping capacities), providing opportunities to contribute to urban recovery through collective creative action (adaptive and participative capacities), fostering social interaction and communication, developing new contacts and relationships between individual community members and different communities, encouraging socially inclusive team building (bonding and bridging social capitals), developing new skills and experiences as part of one's personal and professional development (opportunities to thrive in changed conditions), and offering alternative food supply options (coping, adaptive and participative capacities). Community organisations such as Deaf Aotearoa were able to improve the social capital of some of their community members from "bonding" (social interaction between deaf people in the same community) to "bridging" (social interaction between members of the deaf community with hearing people). Individuals, groups and organisations provided workforce and other resources, often spontaneously, without having been approached by GtR. GtR's bottom-up governance provided the legal framework (license to occupy agreement with the landowner), project management (coordination of voluntary workers), resource management (establishing contacts and relationships with sponsors, organising donations and making them available on-site), and financial resourcing (establishing contacts to funding bodies such as CCC).

The study supports the argument that temporary uses of vacant urban open spaces after a disaster strengthen community resilience (Wesener, 2015) – at least in the immediate disaster recovery phase when the garden became established. Working on the project provided opportunities for people to cope with post-traumatic stress, remain active, learn new skills, to establish new personal networks and possibly new job opportunities. However, while the ephemeral value of a temporary post-community garden in the immediate aftermath of a disaster seems to be fairly obvious in this study, predications about possible me-

dium- and long-term benefits remain speculative. The Fitzgerald Avenue community garden continues to be a productive site, although it has not seen the level of input and output that was apparent in its earlier stages. People attract people; the fewer volunteers there are, the further the garden will regress and the fewer people will be attracted to that space. Arguably, this might be a major difference between temporary community-initiated open spaces established in immediate disasters (e.g. earthquakes) as opposed to those precipitated by slow-onset disturbances (e.g. economic decline). Following a natural disaster temporary uses might provide a necessary and highly important form of post-trauma recovery and therapeutic characterised by moments of intense activity followed by periods of relative disengagement.

Wilson (2013) argues that while some individuals may have been able to increase individual resilience, collective resilience has generally been lost after the Christchurch earthquakes, partly due to weakly developed resilience pathways prior to the disaster. GtR created new linking social capital which, channelled through the GtR project coordinator, became indispensable for the success of the project. As a result, the project coordinator was able to create and reinforce various bonding, bridging and linking capitals which increased his individual level of resilience, for example in relation to future employment opportunities. Although interviewees were confident of the ongoing skills developed through the experience and the strengthened communication, the study was not able to collect evidence for longer-lasting collective benefits. At best, one could argue that the experience of working together and producing new beginnings after a devastating disaster might have contributed to positive social learning processes that could – hypothetically – be made available to future generations, possibly through community organisations such as GtR, and help create stronger resilience pathways (cf. Wilson, 2013, pp. 211–212).

Conclusions

It was planned to carry out interviews with additional early or “founder” volunteers who helped establish the garden in 2012. However, difficulties arose in both establishing the identity and making contact with volunteers. What had seemed a relatively stable and energised volunteer community in 2012 was by 2015 dispersed as people’s job locations and places of residence took them to other parts of the city if not further afield in the general flux of post-earthquake Christchurch. Those contributing to the success of Fitzgerald Avenue community garden who were unable to be contacted were activists from the community organisation Te Whare Roimata, along with the large number of volunteers from local schools, small businesses, and branches of national or multi-national organisations such as commercial banks. Put simply, a number of potential interviewees had changed roles or moved away. This was unanticipated

but in hindsight was to be expected due to the length of time that had lapsed since the garden was established and the turbulence in ordinary life that accompanied such wide spread damage to houses and inner city businesses. In addition, no documentations or reports on the development of the garden and related site activities were carried out between 2013 and early 2015, leaving a data gap of approximately two years which can only partly be filled by interviewees' reflective accounts. However, the key informant interviews and returned questionnaires were sufficiently rich in information and provided, together with the other data sources, a small but relevant basis for the study.

Disasters can activate bridging social capital resources. GtR was formed to initiate temporary landscape projects on vacant sites. At the outset, GtR did not espouse political views. Despite this, when GtR had to engage with a number of emergency management agencies responses varied from initially dismissive to welcoming. Within weeks of the key earthquake events GtR was officially endorsed after positive public and political feedback. However, it was also important for people to be able to do small restorative acts without political implications. In line with Solnit's (2009) observations about convergent or spontaneous volunteers and the need to do something positive, Fitzgerald Ave Community Garden was as much a place to converge and get busy as it was a "project" to build a community asset. The following lessons could be learned from this study:

First, the paper suggests that bottom-up governance approaches, while allowing for things to pop up and not being disturbed and interrupted by overly regulating bodies (cf. Solnit 2009), can be successful if a linking social capital organisation such as GtR runs alongside it – at least for a while. *Second*, the process of establishing the garden was apparently of greater value than the final product – the physical space. However, and perhaps ironically, the space has survived longer than the activities in it. This leads to the important question if community gardens are a suitable "product" for short-term temporary uses after a disaster. The Fitzgerald Community Garden was a site of frenetic public/private activity in late 2012, but now it often looks deserted. Was it enough simply for the site owner and GtR to make a positive "happening" at a time when coping needs were high? Is its present status in that sense irrelevant? In an immediate post-disaster environment, it might be suitable to focus primarily on the process and involved community activities rather than on the "urban product". It might be worth focussing on the development of individual skills rather than sites – what could people learn in their short time of engagement; what do they take out of it? *Third*, when "temporary" changes into "semi-permanent", the nature of bottom-up governance needs to be questioned and adapted to the new situation; different concepts, strategies and skill sets need to be developed and employed, new resources and funding secured. Bottom-up governance itself might

need to become more resilient. How, for instance, could facilitating organisations “take leave” in a more organised way e.g., a farewell ceremony on-site or signed-off transition to another linking body? *Fourth*, the study shows the need to capture as much as possible during the start up as the decay or half-life might be more rapid than anticipated when the built project remains in place but the activation is gone. Collecting multiple data sources – photographs, media releases and commentaries at time of establishment and early construction – is vital. However, it was initially assumed that original project members would still be available two years later – this turned out to be untrue and data collection proved to be difficult. It would have been easier to collect data in a more longitudinal manner, perhaps in combination with regular participative observations that allow for longer-lasting relationships with community activist that make it possible to keep in loose contact even after the first momentum of increased activity has passed. *Fifth*, the paper highlights the need not to judge a case study by any single point in time if it based on a project rather than simply an incident. The high degree of participation in 2012 and very low degree of participation in 2015 does not predict degrees of future participation in 2016 or 2022 if the site stayed a community garden. Due to the intertwined nature of trauma and recovery that post-disaster interventions embody, it may be some time before those who were involved in the construction of the community garden will feel comfortable in returning and taking ownership of it once again.

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